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Operating Instructions
Busch Temperaturregler

Temperature controllers
1099 UHK
1099 UHKEA

BUSCH-JAEGER

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1 Safety

Warning

Electric voltage!
Risk of death and fire due to electrical voltage of 230 V.
– Work on the 230V supply system may only be performed by authorised electricians!
– Disconnect the mains power supply prior to installation and/or disassembly!

2 Intended use

The device is to be used exclusively with the components that are supplied and licensed as described in chapter "Setup and function".

3 Environment

Consider the protection of the environment!
Used electric and electronic devices must not be disposed of with domestic waste.
– The device contains valuable raw materials which can be recycled. Therefore, dispose of the device at the appropriate collecting depot.

All packaging materials and devices bear the markings and test seals for proper disposal. Always dispose of the packaging material and electric devices and their components via the authorized collecting depots and disposal companies.
The products meet the legal requirements, in particular the laws governing electronic and electrical devices and the REACH ordinance.
(EU Directive 2002/96/EC WEEE and 2002/95/EC RoHS)
(EU REACH ordinance and law for the implementation of the ordinance (EC) No.1907/2006)

4 Setup and function

The temperature controller is used to control the temperature in closed rooms.
Application only for de-energized closed actuating drives.

4.1 Features of function and equipment

1099 UHKEA	1099 UHK
With manual switch for switchover between cooling/OFF/heating	With external input for switchover between heating and cooling.

5 Operation

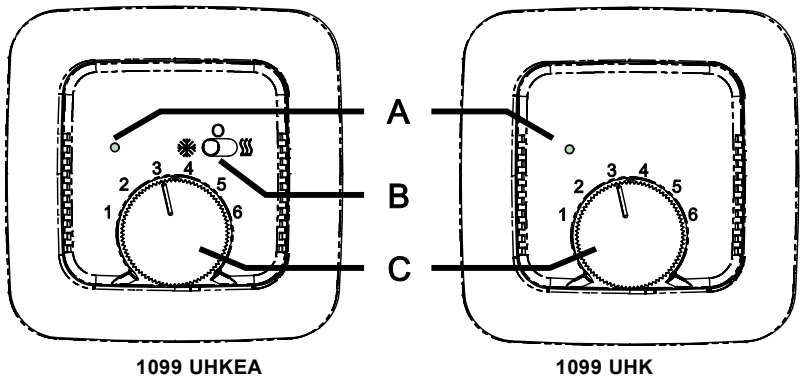

Fig. 1: Operation

No.	Function
A	LED red Operating mode "Heating" LED blue Operating mode "Cooling"
B	Sliding switch at 1099 UHKEA for selecting function B
C	Control knob for selecting the desired room temperature

6 Offset function

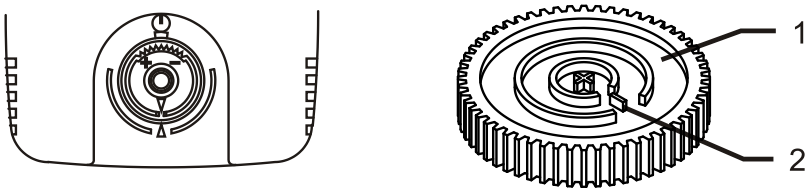

Fig. 2: Offset function

Reaching the selected room temperature strongly depends on the ambient conditions such as heating/cooling system capacity (5 K/h min.), room size, ambient temperature, insulation etc.

That is why the values in the scale are merely guide values. To obtain a setting that is as accurate as possible, the adjusting knob (1) can be offset in 4 stages by a total of +/-6°C.

To do so, pull off the control knob and cut off the position lug (2) on its underside using a suitable tool.

Then shift the control knob by the desired correction temperature in relation to the vertical and put it back on.

7 Technical data

General	
Nominal voltage	230 V ~ ±10%, 50 / 60 Hz
Switching capacity (inductive) heating	10 (4) A, 230 V ~
Switching capacity (inductive) cooling	5 (2) A, 230 V ~
Connection	1.5 mm² … 2.5 mm²
Temperature adjustment range	~ 5 to 30°C (1 = 5°C | 2 = 10°C | 3 = 15°C | 4 = 20°C | 5 = 25°C | 6 = 30°C)
Switching temperature difference *	Approx. +/- 0.5 K
Protection type	IP 20, (EN 60529)
Power loss (Relay off)	0.5 W
Switch contact (independent normally open contact)	2
Mode of operation (DIN EN 60730-1)	1 B
Degree of contamination (DIN EN 60730-1)	2
Rated surge voltage (DIN EN 60730-1)	4000 V

* Typical control operation can not always be attained for cooling areas close to the floor. When the device heats up due to high current loads, the set value should be checked especially in cooling operating mode and, if necessary, the set-point temperature should be raised.

8 Installation and electrical connection

Warning

Electric voltage!
Risk of death due to electrical voltage of 230 V during short-circuit in the low-voltage line.
– Low-voltage and 230 V lines must not be installed together in a flush-mounted socket!

8.1 Requirements for the electrician

Warning

Electric voltage!
Install the device only if you have the necessary electrical engineering knowledge and experience.
- Incorrect installation endangers your life and that of the user of the electrical system.
- Incorrect installation can cause serious damage to property, e.g. due to fire.

The minimum necessary expert knowledge and requirements for the installation are as follows:
- Apply the "five safety rules" (DIN VDE 0105, EN 50110):
  1. Disconnect from power;
  2. Secure against being re-connected;
  3. Ensure there is no voltage;
  4. Connect to earth and short-circuit;
  5. Cover or barricade adjacent live parts.
- Use suitable personal protective clothing.
- Use only suitable tools and measuring devices.
- Check the supply network type (TN system, IT system, TT system) to secure the following power supply conditions (classic connection to ground, protective earthing, necessary additional measures, etc.).

8.2 Mounting

Warning

Electric voltage!
Risk of death and fire due to electrical voltage of 230 V.
– Work on the 230V supply system may only be performed by authorised electricians!
– Disconnect the mains power supply prior to installation and/or disassembly!

The flush-mounted insert must only be installed in flush-mounted wall boxes according to DIN 49073-1, Part 1, or suitable surface-mounted housings.

Note
Use only in dry rooms!

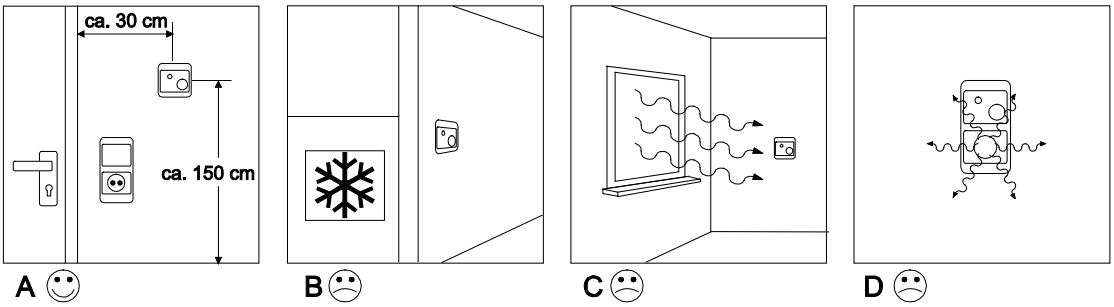

Fig. 3: Installation

No.	Function
A	Height: 150 cm/minimum distance: 30 cm
B	Avoid mounting on thermal bridges
C	Avoid draught and direct sunlight
D	Avoid the heat radiation of external devices

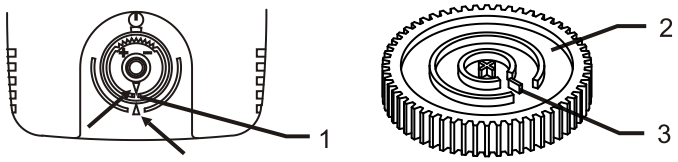

Fig. 4: Position for putting on the adjustment wheel

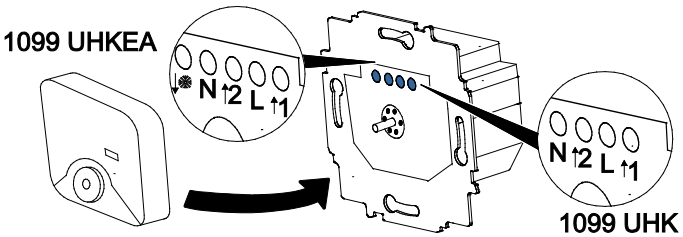

Fig. 5: Putting on the adjustment wheel

To put on the adjustment wheel, turn the two arrows towards each other (1). The position lug (3) on the adjustment wheel (2) can now be put on in its normal vertical position.

8.3 Electrical connection

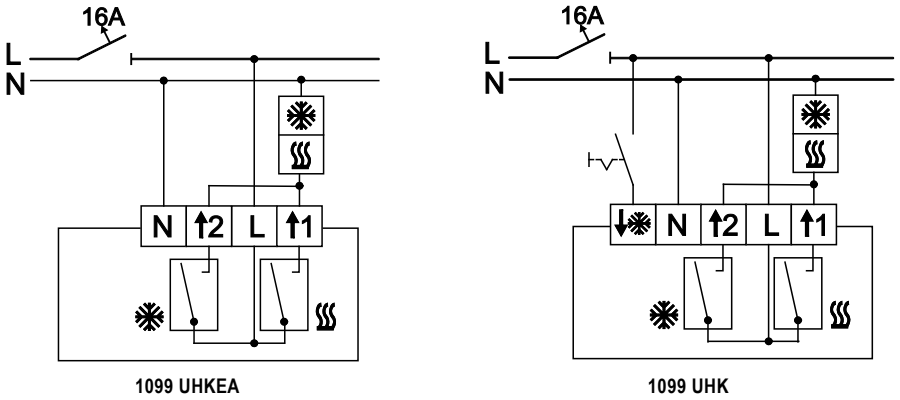

Fig. 6: Connection to a 2-pipe system

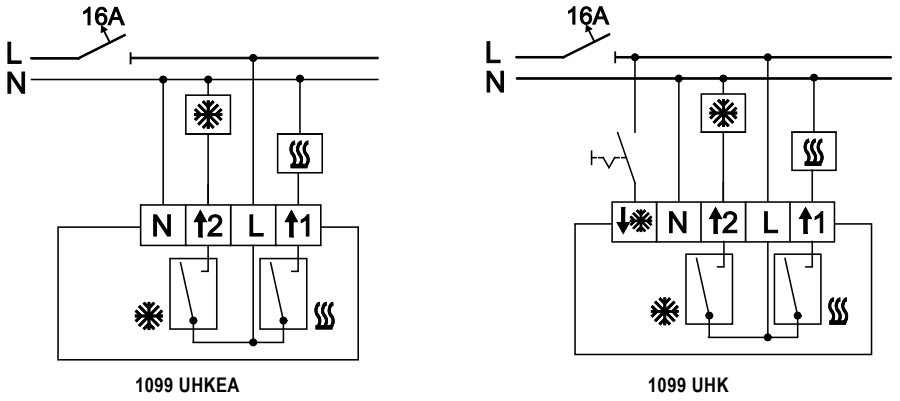

Fig. 7: Connection to a 4-pipe system

Terminal designation	Assignment
↓❄	Input 1099 UHK for switchover to cooling mode
↑1	Output for controlling the heating load
↑2	Output for controlling the cooling load

Note
At high humidity (tendency toward thunder storms) during cooling mode, attention should be paid to dew formation on the cooled surface.
Cooling should be reset early or switched off completely to prevent moisture from damaging the cooled surface.

9 Commissioning

Note
When the temperature controller is used for the first time, it has to be taken into account that the switching point precision is not reached until about 1-2 hours of operation after installation.
It is recommended to set a temperature that is higher (heating operation) or lower (cooling operation) than actually desired, to reduce the time required for initial adaptation.

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Busch-Jaeger Elektro GmbH
PO box
58505 Lüdenscheid

Freisenbergstraße 2
58513 Lüdenscheid
Germany

www.BUSCH-JAEGER.de
info.bje@de.abb.com

Central sales service:
Phone: +49 (0) 2351 956-1600
Fax: +49 (0) 2351 956-1700

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